ST.PETER'S COLLEGE, KOLENCHERY
DEPARTMENT OF COMPUTER SCIENCE

PROGRAMME - M.Sc. Computer Science (Data Analytics)

PROGRAMME EDUCATIONAL OUTCOMES (PEO)

PEO1	**Problem solving -** Implement their critical thinking and problem- solving skills in professional practices
PEO2	**Global perspective -** Understand the social, economic & scientific connections that link the world nations & people

PROGRAMME OUTCOMES (PO)

PO1	**Knowledge in Science -** Ability to understand the background knowledge of the field or environment of techniques of data analysis.
PO2	**Critical Thinking -** Identify the assumptions required for dividing the complex problems into smaller ones and formulate solutions.
PO3	**Computational Thinking -** To determine the interrelated set of skills and practices for solving complex problem compute programming techniques.
PO4	**Research Awareness -** Develop Computer Skills to compete in Scientific research areas keeping ethical issues.

PROGRAMME SPECIFIC OUTCOMES (PSO)

PSO1	**Problem Solving:**Evaluate the problems using knowledge, logic, skills and attitudes acquired through informed learning
PSO2	**Effective Communication:**Develop skills through seminars, project presentations and classroom activity to utilize them in practical situations.

COURSE OUTCOMES

SEMESTER 1

Name of Course: CA030101- Statistics for Data Analytics
Credits given : 4

	Course Outcomes	POs / PSOs	Cognitive Level	Class Sessions
CO1	Understand the basic concepts of probability theory and hypothesis testing	PO1,PO 2,PSO2	U	22
CO2	Illustrate to time series analysis	PO4	U	15
CO3	Utilization of four fundamental characteristics of distribution 1, distribution 2 and distribution.	PO3,PO 4	AP	18
CO4	Application of correlation and regression apply theory of correlation and regression.	PO2,PO 3	AP	17

Name of Course CA030102:Introduction to Data Analytics and Machine learning
Credits given : 4

	Course Outcomes	POs / PSOs	Cognitive Level	Class Sessions
CO1	Define the concepts of data analytics and machine learning	PO1,PO2, PSO2	R	12 hr
CO2	Relate machine learning techniques to solve real world problems.	PO1,PO2, PO3, PSO1	R	13 hr
CO3	Understand the basic concepts of Supervised Learning -Regression and classification	PO1,PO2, PO3,PSO 2	U	15 hr
CO4	Understand the concepts of Unsupervised Learning	PO1,PO3, PO4,PSO 2	U	18 hr

Name of Course: CA030103- Advanced Operating Systems
Credits given : 3

	Course Outcomes	POs / PSOs	Cognitive Level	Class Sessions
CO1	Describe the concepts of Operating System and its role	PO1,PSO 1	R	12 hr
CO2	Understanding the concept of process CPU Scheduling, Synchronization.	PO1, PO2,PS01	U	15 hr
CO3	Categorize the operating system's resource, deadlock, and memory management techniques.	PO1, PO2,PSO 1	U	17 hr
CO4	Understanding the role of the Linux Operating System.	PO1,PS02	U	10 hr

Name of Course: CA030104- Data structures using C
Credits given : 3

	Course Outcomes	POs / PSOs	Cognitive Level	Class Sessions
CO1	Understand the basic concept of computer programming and data structure.	PO1, PO2, PO3,PSO 1	U	17 hr
CO2	Implementations of Array, stack and queue	PO1, PO2,PSO 1	AP	15 hr
CO3	Analysis of trees and graphs.	PO1, PO2,PSO 1	AN	12 hr
CO4	Analyse the hash functions concepts of collision and its resolution methods.	PO1, PO2, PO3,PSO 2	AN	10 hr

Name of Course: CA030105- Python for Data Analytics
Credits given : 3

	Course Outcomes	POs / PSOs	Cognitive Level	Class Sessions
CO1	Define the basic concepts of python programming.	PO1,PO2	R	15Hr
CO2	Explain the working of Numpy and Pandas library	PO1, PO3,PSO 1	U	10 Hr
CO3	Demonstrate data analysis using visualization and Preprocessing of data.	PO1, P02, PO3,PSO 1	U	14 Hr
CO4	Differentiating machine learning algorithms	PO2,PO3, PO4,PSO 2	Ap	15Hr

Name of Course: CA030106- Python & Data structure Lab
Credits given : 3

	Course Outcomes	POs / PSOs	Cognitive Level	Class Sessions
CO1	Understand the basics structure of python & c programming	PO1, PO2,PSO 1	U	40
CO2	Implement python data structures, binary trees, linked list and graph	PO1, PO2, PO3,PSO 1	AP	35
CO3	Analyze the result obtained from Binary trees and Python Data Structures.	PO2, PO3,PSO 1,PSO2	AP	24
CO4	Write Algorithms and programs using python and C Language(Record)	PO1,PO3, PSO1	AP	10

SEMESTER 2

Name of Course: CA030201- Mathematics for analytics
Credits given : 4

	Course Outcomes	POs / PSOs	Cognitive Level	Class Sessions
CO1	Describe the concept of Fuzzy Logic.	PO1	U	20
CO2	Understand the concept of mathematical logic and sets	PO1,PO2 PO3	U	15
CO3	Develop the basics ideas of Linear Algebra	PO1,PO2 PO3	Ap	22
CO4	Solve unconstrained optimization problems	PO1,PO2 PO3	Ap	15

Name of Course: ME010201: CA030202- Advanced Database Management System
Credits given : 4

	Course Outcomes	POs / PSOs	Cognitive Level	Class Sessions
CO1	Understand the basic principles of database management systems.	PO1,PS01	U	18hr
CO2	Explain the basic concepts of the relational data model, entity-relationship model and SQL	PO1, PO3,PSO 1	AP	12hr
CO3	Explain the transaction processing and concurrency control concepts.	PO1, PO2, PO3,PSO 1	AP	21 hr
CO4	Understand the concept of object-relational database and distributed databases	PO1,PSO 2	U	21 hr

Name of Course: CA030204- Programming with Java
Credits given : 4

	Course Outcomes	POs / PSOs	Cognitive Level	Class Sessions
CO1	State Object Oriented programming concepts and basics of Java	PO1,PSO 2	R	13 hr
CO2	Express the concept of Constructors, Keywords and string functions.	PO3,PO4, PSO2	U	12 hr
CO3	Explain the uses of packages and Exception Handling mechanism	PO1,PO2, PSO2	U	15 hr
CO4	Develop Java programs using the concepts of class, constructors,packages and exception handling	PO3,PO4, PSO2	Ap	20 hr

Name of Course: CA030204- Data Mining and analytics
Credits given : 3

	Course Outcomes	POs / PSOs	Cognitive Level	Class Sessions
CO1	Describe the concepts of data mining.	PO1,PO4	R	12
CO2	Explain the data mining methods- classification & clustering	PO1,PO2, PO4	U	15
CO3	Interpret frequent patterns and association rules	PO2,PO3, PO4,PSO 2	U	17
CO4	Explain Apriori algorithm, Naive Bayes Classification methods	PO3,PO4, PSO1	Ap	10

Name of Course: CA030205- Java & SQL Lab
Credits given : 3

	Course Outcomes	POs / PSOs	Cognitive Level	Class Sessions
CO1	Design database schema and Java Programming	PO1,PO3, PSO1	Ap	50
CO2	Implement database applications using procedures, cursors and triggers and Java class	PO1, PO3	An	44
CO3	Analyze the results obtained from the database and Java programming	PO1,PO3, PSO2	Ap	20

Name of Course: CA030206 Mini Project I
Credits given : 2

	Course Outcomes	POs / PSOs	Cognitive Level	Class Sessions
CO1	Identify a real world problem for data analysis.	PO1,PO2	U	6
CO2	Apply Machine Learning algorithm in normalized datasets.	PO3,PSO 1,PSO2	Ap	8
CO3	Interpret the concepts of Machine Learning algorithm	PO1,PO3, PO4,PSO 1,PSO2	An	10